

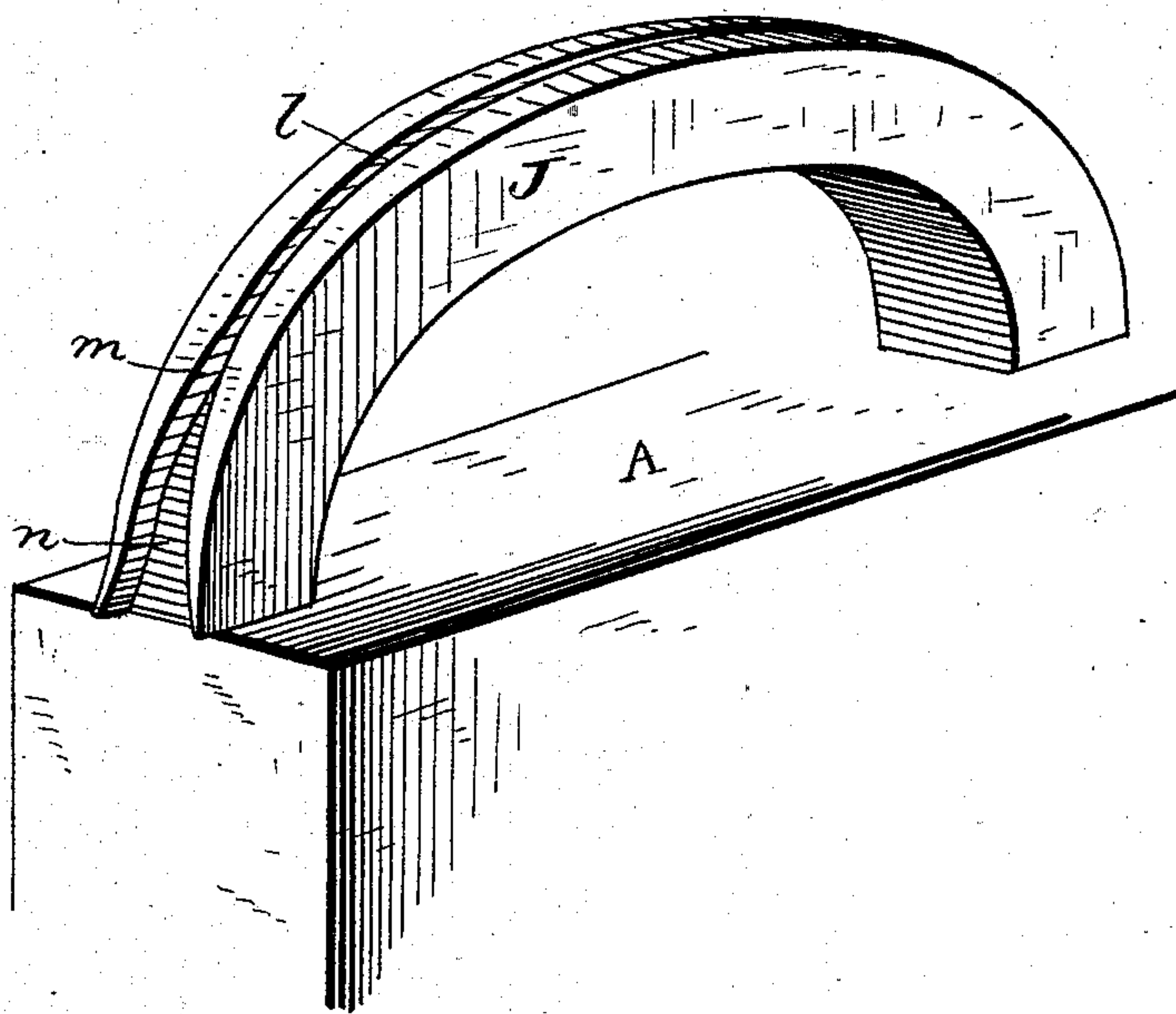
(No Model.)

A. R. BYRKETT.  
DIE FOR FORMING BAILS.

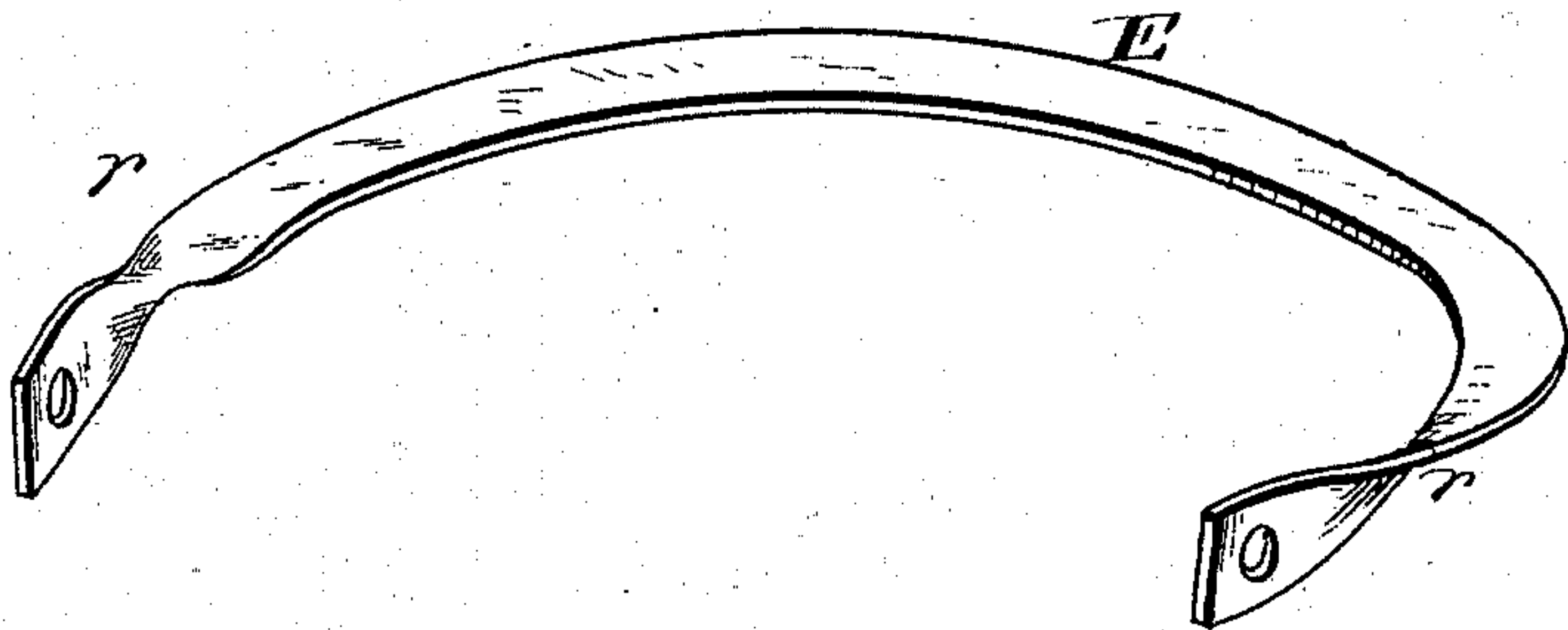
No. 249,583.

Patented Nov. 15, 1881.

*Fig. 1.*



*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

AHIJAH R. BYRKETT, OF TROY, OHIO.

## DIE FOR FORMING BAILS.

SPECIFICATION forming part of Letters Patent No. 249,583, dated November 15, 1881.

Application filed July 15, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, AHIJAH R. BYRKETT, a citizen of the United States of America, residing at Troy, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Bails for Earth Scrapers and Dies for Forming the Same; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention consists in an improved construction of bail for use in earth-scrapers, and in a die for forming the same, as will be hereinafter described and claimed.

In the drawings, Figure 1 represents, in perspective, my improved die resting upon an anvil-block. Fig. 2 represents, in perspective, my improved bail.

A represents the anvil-block. J is the die, which is secured upon said anvil-block in any desired manner. This die is of semicircular form, and has formed upon its upper face a groove, *l*, which extends across the top of the die and down each side thereof to the points marked *m*, of a uniform width, said width corresponding to the thickness of the bar from which the bail is formed. The bail E is formed out of a flat bar of metal. This bar is heated and placed edge down within that part of the groove *l* in the top of the die. An upper die of semicircular form (not shown) attached to a suitable drop-press is then brought down upon the die J, and the ends of the bar forced down over the sides of the die J, a part of each end entering into the outwardly-flaring portion *n* of the groove *l*. The downwardly-projecting ends of the bar below the enlarged groove form the bail-arms, which are attached to the scraper, while those portions within the enlarged parts of the groove form the corners of the bail. Immediately upon the bar being swaged to a semicircular form, an operator, by means of tongs or any other suitable device, grasps the ends of the bar extending below the bottom of the die, and by giving them a quarter-turn twists that part of the bar within the enlarged groove one-fourth around, and thereby forms the twist-

ed corners *r* of the bail, as shown in Fig. 2. By thus twisting the corners of the bail said corners and the front or central part of the bail, upon which great strain is exerted in use, are rendered very strong and capable of sustaining a very considerable strain. Where the corners of the bail are not twisted it is necessary, in order to produce a bail sufficiently strong to withstand the strain exerted thereupon during the use of the scraper, either to re-enforce the front portion to which the draft-link is attached or else increase the thickness, and consequently increase the weight of the corners. Otherwise the draft upon the bail will result in the pulling apart or fracture of the bail-arms.

By my construction I avoid thickening the bail at any part, and secure the same result as is attained where the corners are thickened, with a lighter bail and with the use of less material.

In constructing bails heretofore the custom has been to form them, by forging, of equal thickness throughout at the sides, and re-enforce the central or front portion to which the link is secured. This forging of the bail is, as compared with my method of construction, a costly operation. It is also tedious. Bail-arms forged of equal size and weight throughout the length of the arms proper and with the corners of increased thickness are also more expensive than when constructed according to my improvement. The cost of the labor alone in forging is about sixty cents, while by forming them within dies, as above described, the cost of the labor of manufacture would not exceed five cents on each bail.

By twisting the bail at the corners *r*, as seen in the drawings, it will be observed that the narrow edges of the bail-arms are at the top and bottom, respectively, while the front portion of the bail, to which the draft device is attached, has its edges in a horizontal direction. I thus insure the least possible resistance of the bail-arms to the earth in draft than when the arms are arranged with their broad sides down, and also the least resistance to the draft by arranging the front portion with its edges horizontally.

By thus constructing bails I am enabled to produce a bail capable of sustaining any strain to which it is liable to be subjected in use with



a less expenditure of material and more cheaply and rapidly than is possible where the bails are forged and re-enforced either at the corners or front portion, to which the draft mechanism  
5 is attached.

Having thus described my invention, what I claim as new therein is—

1. A bail for earth-scrapers, having twisted corners *r*, substantially as and for the purpose  
10 described.

2. The die J, having groove *l n*, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

AHIJAH R. BYRKETT.

Witnesses:

T. B. KYLE,  
CHAS. J. GOOCH.